- Is academic medicine useful for patient outcomes globally, under select circumstances, for specific healthcare problems, in specific countries, or never?
- Does academic medicine work?

Conclusion

Academic medicine needs evidence to guide its future direction.[24] This preliminary analysis has identified areas where further systematic efforts are indicated (box 2) and we welcome independent researchers to join us.

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Gender and academic medicine: impacts on the health workforce

Laura Reichenbach, Hilary Brown

Recent discussions about the "feminisation of medicine" raise critical questions for how academic medicine deals with gender issues. Addressing the gender dimensions of enrolment, curriculum, and promotion practices in academic medicine may be a good starting point

Harvard Centre for Population and Development Studies, Cambridge, MA 02138, USA
Laura Reichenbach *research scientist*
Rockefeller Foundation, New York, NY 10018, USA
Hilary Brown *programme coordinator*
Correspondence to: L Reichenbach laura@hsph.harvard.edu

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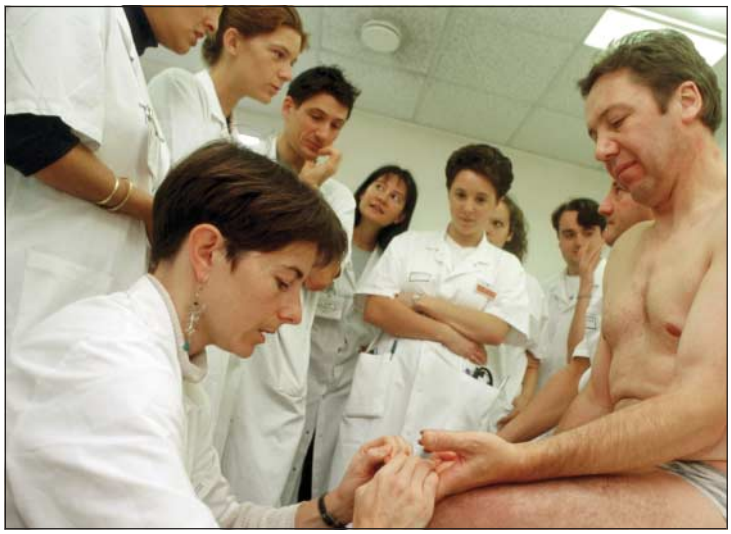
To be effective, the campaign to revitalise academic medicine must address the gender dimensions of how doctors are selected, trained, and promoted. Existing research on gender and academic medicine has primarily examined the role of female physicians, the "feminisation of medicine,"[1 2 3] and the needs of female patients.[4] Although these are important, they do not represent the spectrum of gender dimensions affecting academic medicine and the range of challenges facing decision makers. Furthermore, issues of gender and academic medicine also concern developing countries around the world.

Academic medicine has the opportunity to improve the quantity and quality of the health workforce as a means of strengthening the broader health system. To support this approach, the field must recognise that healthcare providers are not a homogeneous group but individuals facing choices throughout their careers that influence their selection of specialty and where and how they provide health care. Gender plays an important role in this decision process. The concept of gender is rooted in societal beliefs about the appropriate roles and activities of men and women and in the behaviours and status that result from those beliefs.[5] We believe that the goal is not just ensuring equal numbers of men and women (gender equality) but also guaranteeing fairness and justice in the professional opportunity structure (gender equity).

Academic medicine must address the gender dimensions of enrolment, curriculum, and promotion to have a positive impact on human resources for health around the world. "Human resources for health" refers to the range of personnel that deliver the public health, clinical, and environmental services that make up the health system.[6] Academic medicine plays a critical role in human resources for health by training students to become accredited practitioners. Thus, fundamentally, academic medicine contributes to the public health system by creating the "stock" of individuals who subsequently form a large part of the health

labour market. While in many parts of the world, health care is provided within the informal sector, this article focuses on physicians trained within the academic medical system.

Incorporating gender dimensions into enrolment, curriculum, and promotion practices will illuminate new mechanisms for how academic medicine can improve the number, distribution, and skill mix of the health workforce. This is especially important in the context of increasing pressure to achieve the World Health Organization's millennium development goals, to scale up vertical public health programmes, and to address the increasing "brain drain" of doctors and nurses who migrate from developing to developed countries, from rural to urban areas, and from the public to the private sector.



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Gender dimensions of academic medicine

Academic medicine includes education and training, research, and clinical care and, as a result, has broad scope and influence on the health system. In this article we focus on the gender dimensions of three particular functions that affect the health workforce: enrolment, curriculum, and promotion.

Enrolment

Around the world there is an increasing trend to consider gender in the recruitment and enrolment of medical students. As a result, in many countries women are enrolling in medical schools in increasing numbers, and in some countries gender equality has been achieved. This "feminisation of medicine," has resulted in increased numbers of female doctors entering the health system. In Russia in 1990, 69% of doctors were women,[3] and in the United Kingdom women doctors are expected to outnumber men doctors within 10 years.[7] These steps toward gender equality raise important challenges for academic medicine. A recent statement by Carol Black, president of the Royal College of Physicians, that the medical profession becomes less powerful and influential as it becomes increasingly feminised is testament to this.[8]

Data describing the gender dimensions of medical school enrolment in developing countries are less available. However, recent data from Mexico and Bangladesh indicate that the numbers of women entering medical school in these countries are increasing. In Mexico women's enrolment rates increased by 6.5% between 1990 and 2001, and in 1999 women surpassed men in enrolment figures.[9] Currently in Bangladesh, of the 9391 students in government-run medical schools, 46% are women (S Hussain, director medical education and health, Bangladesh, personal communication, 2004). Although such improvements in gender equality of medical school enrolment are encouraging, experiences in developed countries suggest that gender inequities persist despite improvements in gender equality. These gender inequities can affect men and women in terms of their selection of specialty and promotion opportunities. Analyses from developing countries may show similar patterns as in developed countries**.** In Mexico in 2000, 46% of registered women doctors were not employed in medicine, compared with 35% of men doctors (N Gustavo, FUNSALUD, Mexico, personal communication, 2004). Gender inequities often occur early in the academic training process and affect career trajectory and, ultimately, the extent, distribution, and skill mix of the health workforce.[10 11]

Curriculum

Disregard for gender in the medical curriculum affects the health workforce. The medical curriculum reflects a common set of standards that guide achievement and success during and beyond medical training.[2] Gender based critiques argue that training materials in academic medicine endorse a patriarchal view that neglects women's healthcare needs.[12] Physicians will provide higher quality care to their female patients if the medical school curriculum better reflects the female patient's perspective.[13] Kerala state in India has led a recent effort to examine gender issues in medical school training. This effort started with a gender based review of the curriculum and produced a three year programme that includes training modules on gender sensitisation for medical college teachers and is used in several Indian states.[14] Such efforts have as their ultimate goal the removal of gender biases in how providers deliver health services.

Making medical training curriculum more gender sensitive can also affect the career trajectory of health providers and the management of human resources for health. Adapting the curriculum to reflect gender prepares providers to address a range of health issues that better meet the needs of a diverse group of patients. Ultimately, this may allow the provider greater flexibility in choice of specialty and location of practice. For example, better preparing men to address women's health needs may increase patient demand for their services, leading to greater job satisfaction. It may also open up medical specialties often seen as the domain of female providers, such as paediatrics, to men.

Promotion practices

Research in the developed world has documented gender inequities in the promotion practices of academic medicine.[10 15] Studies show that women in the medical profession advance more slowly than men, particularly in academic medicine, and that there are far fewer women in leadership positions.[11] In the United States, women accounted for only 6% of medi-

cal school departmental chairs in 1998; in 1999, only six of 125 medical schools had female deans.[3] Several studies have shown that it takes women longer to be promoted from assistant to associate professor and to full professor.[11] Among explanations for this gender inequity in promotion is that women, because of family obligations, work fewer hours and are less productive than men. However, a survey of physician faculty in US medical schools found that even after work schedule, specialty, and productivity differences were accounted for, women remained less likely to be promoted than men.[11]

Another explanation for gender inequity in promotion is the institutional and cultural structure of academic medicine, which relies heavily on sponsorship and patronage. Medical school faculty and practitioners serve as informal and formal gatekeepers; they influence students' selection of specialty and serve as mentors, grooming students for careers in clinical or academic settings. A plausible explanation for gender disparities in promotion is that women have fewer mentors and professional networks and less collegial support while in the academic medical system. This suggests the need for gender equity in mentoring during the education process and throughout the academic medical career. Specific suggestions include using visiting professorships to increase the presence of female professional role models and encouraging female students to develop multiple mentoring relationships with men and women to foster greater understanding of the gender-specific challenges facing academic professionals.[10]

Addressing gender and academic medicine

How can gender questions be successfully incorporated into the campaign to revitalise academic medicine? Many are just beginning to be articulated; addressing them will require important changes in how gender is perceived and valued in academic medicine.

Building an evidence base

The first change needed is a commitment to collect evidence related to gender and academic medicine. This should include data on gender and promotion practices, mentoring systems, and how gender is valued in academic medicine. Constructing an evidence base will raise awareness about the utility of incorporating gender into academic medicine; illuminate new interventions; help decision making; and generate systematic analyses. It will allow questions such as "do women tend to practice particular medical specialities because of individual choice or due to gender biases?" to be addressed. Finally, an evidence base will make it possible to track progress in achieving gender equity in academic medicine. While creating indicators is not a straightforward process, it will generate debate about the best measures for gender equity in academic medicine.

Gender equality versus gender equity

The second change requires leaders in academic medicine to recognise the distinction between gender equality and gender equity. Gender equality refers to men and women having equal opportunity and access to resources, whereas gender equity strives for fairness and justice for men and women in the professional opportunity structure. In the past, academic medicine has addressed gender primarily through recruitment policies for enrolment in medical education. This has increased the number of female physicians, but they are more likely to be unemployed or less likely to practice in highly specialised areas of medicine than their male counterparts. Gender equity addresses underlying injustices in the professional opportunity structure and offers a more complete approach to addressing gender and academic medicine.

Challenging traditional values

The final change requires a fundamental shift in values and expectations among leaders of academic medicine. Expectations about what represents measures of success and performance may need to be reconsidered. For example, number of hours worked may not be an accurate measure of productivity without also taking into account some measure of the quality of care provided. Traditional expectations about who is best equipped to practise a particular specialty must also be revised. Students should not be pressured, directly or indirectly, to enter particular specialties because of social expectations about the professional strengths or weaknesses of men and women.

Gender presents challenging issues and critical questions for decision makers at all levels of academic medicine. As a conservative, male dominated institution, academic medicine may not easily examine the gender dimensions of its operations and values. However, it is critical to view the issues raised by gender as an opportunity to help revitalise academic medicine and strengthen its contributions to the health system rather than as a threat to the profession. Improving gender equity is essential to the future of academic medicine; ensuring the health system's most effective

Summary points

- Improving the health workforce through increased numbers and improved distribution and skill mix of providers is contingent on identifying and addressing the gender dimensions of enrolment, curriculum, and promotion in academic medicine
- Gender equality in enrolment and graduation rates is not enough; gender equity will improve the extent, distribution, and skill mix of the health workforce
- A better evidence base related to gender and academic medicine is needed
- A more focused mentoring and support system throughout the academic medical process is also required
- Both male and female leaders of academic medicine should rethink their traditional values

response to the public health challenges of the future may well depend on it.

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Clinicians and patients' welfare: where does academic freedom fit in?

James G Wright, John H Wedge

Academic freedom has accompanying responsibilities, and boundaries; but are there additional constraints specific to clinicians, such that research and teaching would conflict with caring for patients?

Suppose you are a surgeon who wants to do a randomised clinical trial comparing open with thoracoscopic spinal instrumentation and fusion. You prepare the trial and receive funding from a national funding agency—but the chief of surgery at your hospital deems that you fail to meet acceptable standards of competence and withdraws your privileges, effectively ending your research. Privileges in hospital can be limited or revoked for many reasons in addition to clinical proficiency: unacceptable standards of behaviour towards patients, failure to maintain adequate medical records, and substance abuse, for example. Inability to proceed with your trial means your academic freedom has been limited. Academic freedom for clinicians is contentious because the missions of universities and their faculty differ fundamentally from those of hospitals and their clinicians.[1–4] This article addresses a practical issue; are clinical faculty different from faculty in the rest of the university, and if so, what is the forum (hospital or university) for resolution of disputes about academic freedom? A clear policy (in addition to existing policies[5]—such as they are[6]) is needed for vindication of important competing values unique to clinicians, with an appropriate procedural framework that includes a dispute resolution mechanism. Academic freedom of clinicians must be protected, but in the rare circumstances when conflicts occur, the primacy of patient welfare must be established.

Academic freedom is a prerequisite for the relentless, objective, scholarly pursuit of knowledge and truth for the advancement of the human condition.[7] Academic freedom is generally acknowledged to have its origin in the German university system of the 19th century.[8] There is no universally accepted definition of academic freedom but most definitions include elements such as "full freedom in research and in publication of results," "freedom in the classroom in discussing their subject," and "freedom from institutional censorship or discipline."[9] Although, there are probably as many definitions as there are institutions, academic freedom is seen within universities as a fundamental right allowing faculty to comment on and study any topic in an unfettered way.[10–12]

Responsibilities

An unappreciated aspect of academic freedom is that it also has certain inseparable accompanying responsibilities[8 13] and, therefore, boundaries. For example, freedom from censorship is limited by special obligations that teachers "should at all times be accurate, should exercise appropriate restraint, should show respect for the opinions of others, and should make every effort to indicate they are not speaking for the institution."[9] Most universities have principles of confidentiality of privileged information and avoidance of discrimination or harassment.[12] Within these

Department of Surgery, University of Toronto, Hospital for Sick Children, 555 University Avenue, Toronto, ON, Canada M5G 1X8
James G Wright *professor*
John H Wedge *professor*
Correspondence to: J G Wright jim.wright@sickkids.ca

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